

STARDOME OBSERVATORY & PLANETARIUM
FACTS, RESOURCES AND ACTIVITIES ON...

THE SUN IS A STAR

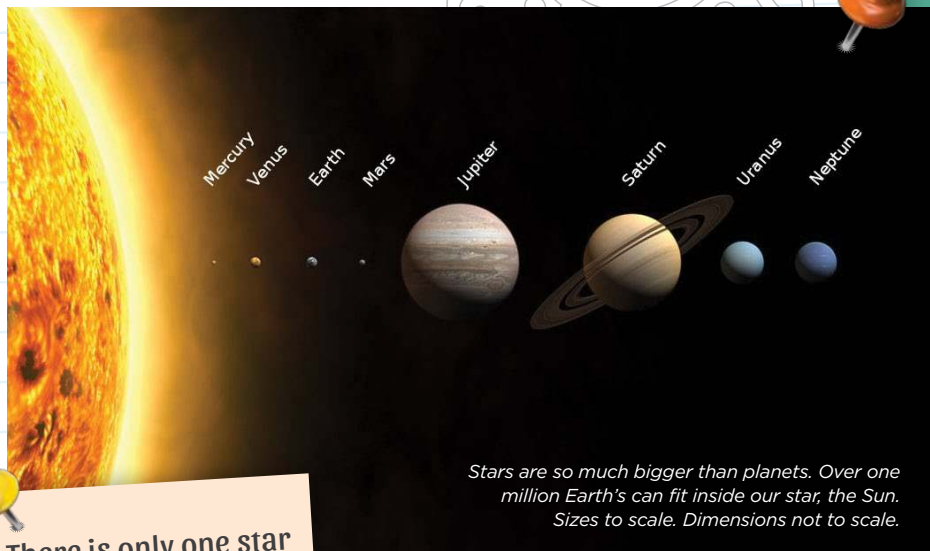
(JUST NOT AS FAR AS THOSE YOU SEE AT NIGHT!)

What is a star, and how can our Sun possibly be one when it looks so very different!?

Let's talk first about the Sun. The Sun gives off heat and light. Without our Sun, the Solar System would be very dark and cold. When we see pictures of Earth and other planets, we are seeing them because the Sun is lighting them up. If the Sun were to turn off, we wouldn't be able to see any of the other planets in our Solar System, and it would be night-time all over the world.

Now let's talk about other stars. Even without the Sun, the night sky would still be filled with twinkling stars. This is because the other stars we see at night give off heat and light of their own. We can't feel their heat because they are so far away.

This is similar to the effect you get when you move away from a heater when inside a cold room. The heater is still on, but the further away you are from the source, the less you feel it's heat.



Stars are so much bigger than planets. Over one million Earth's can fit inside our star, the Sun. Sizes to scale. Dimensions not to scale.

There is only one star in our Solar System

Stars give off heat and light

On that same note, all stars are enormous compared to planets. We could fit over one million Earth's inside the Sun, and most of the stars we see at night are even bigger than the Sun! They may look

small but that is because they are so far away. If we could get close to these stars, we would see that many of them also have planets, just like our Solar System.

Because the stars we see at night are already very small to our eyes, we can't see the (even smaller!) planets that are going around, or orbiting, them.

Check out these other resources...

- spaceplace.nasa.gov/
- [youtube.com/watch?v=LSGepEpZ_kw](https://www.youtube.com/watch?v=LSGepEpZ_kw)

What are some of the differences between stars and planets?

Are there other planets outside our Solar System, and if so, where?

What word do astronomers use to talk about something that moves around something else in outer space?

DISCUSSION POINTS



ACTIVITY

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TWINKLE, TWINKLE LITTLE LIGHTS

Using fairy lights, we will learn about space!

WHAT YOU'LL NEED

- ⇒ String of fairy lights
- ⇒ Camera
- ⇒ Ruler
- ⇒ Paper
- ⇒ Writing materials

WHAT TO DO

Hang up your fairy lights against a blank wall and take photos of them from a distance. Move a few steps closer and take another photo. Keep moving closer to the lights, taking photos as you go. Finally, take a photo right on top of one of the lights. Upload these photos and print them out on A4 pages for the children.

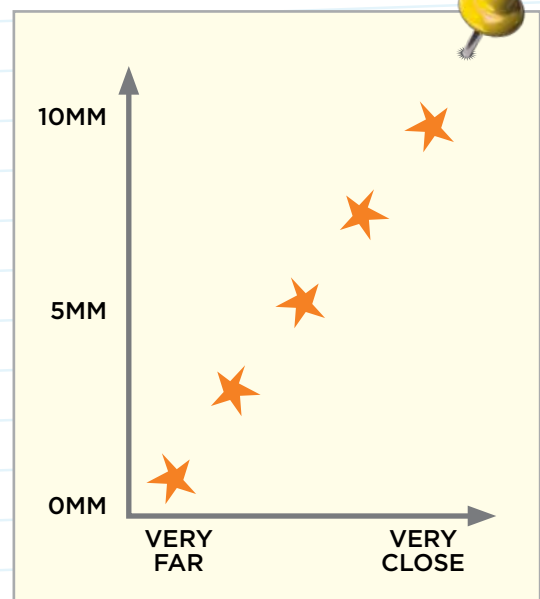
NOW, LET'S GET SCIENTIFIC!

Use a ruler to measure the size of an individual light in each photo. If, at first, the measurements are simply too small to measure, don't worry! Just keep moving through the photos until you find one that is easy enough to read the number of millimetres or centimetres that go across the photo of the light.

Now - let's make a graph! This should be as simple as labelling the bottom axis of the graph as the distances from the lights and noting them from 'very far' to 'very close'. The vertical axis of the graph should be labelled with the apparent size of the lights going from '0' to just over the largest measurement taken.

Show the kids how to plot on their graph by marking the appropriate size measurement above each distance.

At the end it should show that the fairy lights appeared to get bigger the closer you moved to them! Now the big question, have the fairy lights actually changed in size at all? This is a question we would love to know your student's answers to! Please send us the results of your very scientific exploration.



TAKE A PHOTO OF YOUR ACTIVITY AND SEND IT TO US.
WE'D LOVE TO SEE IT! EDUCATION@STARDOME.ORG.NZ

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